

*THE EFFECTS OF SOCIAL PUNISHMENT ON
NONCOMPLIANCE: A COMPARISON WITH TIMEOUT AND
POSITIVE PRACTICE*

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The effects of social punishment, positive practice, and timeout on the noncompliant behavior of four mentally retarded children were assessed in a multitreatment withdrawal design. When programmed, the experimental procedure occurred contingent on noncompliance to experimenter-issued commands. Commands were given at 55-sec intervals throughout each experimental session. The results showed (1) lower levels of noncompliance with social punishment than with the positive-practice or timeout conditions, and (2) that relatively few applications of social punishment were required to obtain this effect. The advantages of social punishment over other punishment procedures, considerations to be made before using it, and the various aspects of the procedure that contribute to its effectiveness were discussed.

DESCRIPTORS: social punishment, noncompliant behavior, punishment procedures, mentally retarded children

Suppression of the deviant or noncompliant behavior of children has often been attempted through the systematic application of timeout (*i.e.*, isolation), ignoring, removal of attention, and overcorrection (Forehand and Baumeister, 1975; MacMillan, Forness, and Trumbull, 1973). Certain undesirable effects, however, have occasionally been associated with each of these procedures. Wahler (1969) and Herbert, Pinkston, Hayden, Sajwaj, Pinkston, Cordura, and Jackson (1973), for example, showed that ignoring noncompliance and other behavioral problems not only failed to reduce the frequency of these behaviors but, in some instances, was associated with an increase in the target behaviors. Sajwaj, Twardosz, and Burke (1972) also reported an increase in disruptive behavior when a single response, "nagging", was ignored. In addition, certain behaviors threaten bodily injury to the child himself or to others, and may

be frequent or severe enough to preclude the use of ignoring.

Overcorrection has been shown to be effective in reducing a variety of deviant behaviors (Azrin and Wesolowski, 1974; Foxx and Azrin, 1973), but this procedure can require a considerable amount of time to deliver and, therefore, may not be practical in some environments. Furthermore, the use of manual guidance may set the occasion for aggressive responding by the subject.

Although timeout (isolation) has been shown effectively to suppress some undesirable behaviors (Bostow and Bailey, 1969; Hamilton, Stephens, and Allen, 1967), it can also serve as a positive reinforcer (Steeves, Martin, and Pear, 1970). In addition, increased attention is being drawn to the practical (Anderson and King, 1974), procedural (McDonough and Forehand, 1973), and ethical (Anderson, 1974; White, Neilsen, and Johnson, 1972) problems inherent in the use of this procedure. Indeed, the use of timeout has been eliminated or severely curtailed in many institutional settings due to recent court action (*Wyatt versus Stickney*, Court Case, 1974). This emphasizes the need to ex-

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plore and develop other effective procedures, particularly for use with the mentally retarded.

Social punishment may be an alternative to the use of timeout, ignoring, or overcorrection procedures in the control of deviant and non-compliant behavior. Several classroom studies have shown that social punishment in the form of a verbal reprimand (Hall, Axelrod, Foundopoulos, Shellman, Campbell, and Cranston, 1971; McAllister, Stachowiak, Baer, and Conderman, 1969; O'Leary and Becker, 1968; O'Leary, Kaufman, Kass, and Drobman, 1970) or verbal reprimands variously combined with physical closeness or contact with the subject, disapproving facial expression, and praise (Jones and Miller, 1974; McAllister *et al.*, 1969; O'Leary *et al.*, 1970; Sajwaj, Culver, Hall, and Lehr, 1972) will reduce disruptive student behavior. Thomas, Becker, and Armstrong (1968) and Madsen, Becker, Thomas, Koser, and Plager (1970), however, reported an increase in the target behavior when a contingent reprimand or disapproving statement was issued by the teacher; Hall, Panyan, Rabon, and Broden (1968) and Azrin and Powers (1975) noted teacher reprimands to be relatively ineffective. The presence of peers when social punishment was delivered, inconsistent results, and within- and between-study variations in the type and complexity of the social punishment administered limit the generality of the findings.

Two studies (Forehand, Roberts, Doleys, Hobbs, and Resick, 1975; Moore and Bailey, 1973) explored the effects of social punishment administered by parents. In a group comparison design, Forehand *et al.* (1975) found negative attention (a loud reprimand followed by a silent "glare") to be more effective than repeated commands, isolation, ignoring, or a combination condition in reducing the noncompliant behavior of normal children. Moore and Bailey (1973) showed that a loud verbal reprimand by the mother decreased "autistic-like" behavior in a 3-yr-old and increased social responsiveness.

Redd, Morris, and Martin (1975) found that when adults, other than parents or teachers, ad-

ministered reprimands for off-task behavior, they were better able to establish and maintain the on-task behavior than were adults who provided only social positive reinforcement and adults who completely ignored the subject's behavior. Preference tests, however, showed the "negative" adults to be the least preferred by the children.

Some studies have examined the effects of social punishment with the mentally retarded (Baumeister and Forehand, 1972; Repp and Deitz, 1974; Risley, 1968), but each poses a methodological problem that makes interpretation of the efficacy of social punishment difficult. Baumeister and Forehand (1972) reported data for a group of six subjects with no discussion of individual variation. Repp and Deitz (1974) combined a response-contingent "No" with positive reinforcement for appropriate behavior. Risley (1968) combined shouting with physical shaking of the subject, and reported data for only one subject who had earlier been exposed to other intervention procedures for other target behaviors.

The present study investigated the effects of a social-punishment procedure, a loud verbal reprimand followed by a silent "glare", on the noncompliant behavior of four mentally retarded children. It was designed to provide a more comprehensive experimental analysis of the effects of social punishment when used as the only intervention procedure. In addition, it is one of the first attempts to compare systematically social punishment to a brief timeout and a procedure referred to as positive practice, which might be considered a form of overcorrection.

METHOD

Subjects

Four residential students from a local center for the developmentally handicapped served as subjects. Keith, an 8-yr-old male, and Paula, a 10-yr-old female, were both identified as educably mentally retarded (IQs of 52 and 31 respectively) with no apparent organic disorder. Ricky, a 10-yr-old male, was diagnosed autistic

and mentally retarded (IQ of 52). He was deficient in expressive language skills but had been observed on occasion to respond appropriately to instructions delivered by his teacher. Scott, a 10-yr-old male, had been variously diagnosed autistic, childhood schizophrenic, and mentally retarded (IQ of 40).

Each of the children was described by their teachers and parents as being noncompliant or uncooperative. In addition, Scott emitted several bizarre and aggressive behaviors in his classroom, which included jumping and hopping around the room, loud inappropriate verbalizations, and frequent threats or physical attacks on his classmates. For these reasons, the children were referred by their teachers to the present study.

Setting and Apparatus

The experiment was conducted in a room containing two large tables some 3 m apart. A variety of toys and playthings, with which the subjects were commanded to play, was arranged on each table. The objects on one table were designated as A-task toys and included: (a) chalkboard and chalk, (b) sheets of "connect-the-dots" and a pencil, (c) paint book and paints, (d) paper with designs for cutting and scissors, and (e) a coloring book and crayons. The toys on the second table were referred to as B-tasks and included: (a) plastic cars and trucks, (b) tinker toys, (c) plastic cowboys and Indians, (d) wooden blocks, and (e) four hand-puppets. Non-compliance with B-task commands produced the treatment procedures during the study. The A-tasks were used to determine the cross-task generality of changes in noncompliance. A jigsaw puzzle and a plastic telephone were used as probe-tasks, which were introduced periodically throughout the experiment to assess whether rates of noncompliance would remain stable when unfamiliar tasks were employed. The probe task toys were present during only those sessions when they were used.

Observations and recordings were made from an adjoining room equipped with one-way mir-

rors. A standard tape recorder was used to cue each recording interval. An auditory stimulus signalled the end of a recording interval, at which time the observer(s) scored the child's behavior. A standard flashlight was used by the observer to cue the experimenter when to give a command and when to terminate the session.

Procedure

Introduction to the toys. At the beginning of the first session, the subject was taken to each of the toys or tasks, told what it was called, and shown how to play with it. This was done to ensure that the subject knew to which task he was being directed when commands were given.

Commands. Direct commands, cued as described above, to engage in a particular task were given by the experimenter at 55-sec intervals after introduction to the toys during the first sessions and throughout each subsequent session. A subject was never commanded to play with a toy if he was already in contact with it, but was always directed to another one. Commands relating to the A-tasks were of the form of "Color in the coloring book with the colors". For the probe and B-tasks, the subject was directed to "Play with the ____". The order of the commands was mixed and varied from session to session. A- and B-task commands were evenly distributed throughout each session. Probe task commands were issued only during baseline conditions. The mean number of commands issued per session was 24 (range 18 to 28).

During the session, the experimenter remained in one part of the room, from which he issued commands. The experimenter moved about the room (a) if it was necessitated by an experimental condition, or (b) to relocate the toys in their designated places if the subject had gathered two or more of them around himself or had thrown the toys about the room. A neutral facial expression was maintained by the experimenter, thus neither approving nor disapproving of the subject's behavior, unless otherwise defined by an experimental condition.

Except for giving the commands, no other interaction took place unless specified by an experimental procedure.

Experimental Conditions

Baseline (B.L.). During baseline, commands were delivered as described above. The experimenter engaged in no other interaction with the subject and made no differential response to his behavior.

Social punishment (S.P.). Social punishment was instituted upon the noncompliance of the subject to B-task commands (*i.e.*, failure to touch the toy or task specified in the command within 10 sec after the command was given). Social punishment was defined by the experimenter's walking over to the subject, holding him firmly by the shoulders and in a loud scolding voice saying "(Scott), you did not do as I asked right away and I don't like it when you disobey me!" The experimenter then released the subject, put his hands on his hips and "glared" silently at him for 40 sec. The "glare" consisted of looking continuously at the subject.

Positive practice (P.P.). Positive practice was carried out only after the occurrence of noncompliance to B-task commands. Positive practice involved the experimenter leading the subject to the commanded task and manually guiding him through appropriate play activities. Manual guidance consisted of assuming a position behind the subject, taking the subject's hand and directing the task-related activity for 40 sec. Whatever pressure or force was necessary to get the subject to move his hands was applied. If the subject engaged in task-relevant behavior with minimal guidance, the experimenter terminated manual guidance but remained behind the subject during the positive-practice period. Manual guidance was initiated again if at any time during the 40-sec period the subject ceased appropriate play behavior.

Timeout (T.O.). As with social punishment and positive practice, timeout was contingent on noncompliance with B-task commands. Isolation within the experimental setting was used

as the timeout procedure. It was executed by the experimenter approaching the child, stating in a calm voice, "(Scott), you did not do as I asked right away so you will have to sit in the corner", then leading the subject to a corner of the room and standing quietly by him for a 40-sec period to ensure that he remained in the corner. The experimenter ignored the subject unless he attempted to escape from the corner and had to be returned.

Measurement and Reliability

Subjects were observed individually in 30- to 40-min sessions five days a week. A trained observer recorded each subject's behavior after the command was given. "Noncompliance" was scored if the subject did not touch the prescribed toy within 10 sec after the command was given.

The frequency of aggressive responses was also recorded for Scott beginning at Session 5. An aggressive response was defined as any throwing or kicking behavior, threatening gestures, or physical attacks toward the experimenter.

Interobserver agreement for noncompliance was checked during selected sessions for each of the subjects by utilizing a second trained observer in the observation room. Scored-interval (S-I) reliability scores were calculated by the formula

$$\frac{\text{total number agreements}}{\text{total number of intervals in which at least one observer recorded the behavior}}$$

(Hawkins and Dotson, 1975).

Experimental Design

A withdrawal design (Leitenberg, 1973), in which baseline conditions preceded and followed each experimental condition, was employed to assess the effects of the three experimental procedures on the noncompliant behavior of the four subjects. In addition, the effects of social punishment, when it was preceded by none, one, or both of the other experimental proce-

dures, were investigated by exposing Keith to social punishment only, Paula to positive practice followed by social punishment, and Scott and Ricky to both timeout and positive practice before social punishment. This design provided a partial control for order effects that can occur in multitreatment single subject designs (Birnbrauer, Peterson, and Solnick, 1974).

For each of the four subjects, baseline conditions remained in effect until a stability criterion of 12% deviation or less in the per cent of noncompliance across five sessions was met. Each experimental condition continued for a maximum of five sessions or a minimum of two. The baseline condition was re-instated after two sessions under an experimental condition if noncompliance was reduced to 50% or less in at least one of the two sessions. This latter criterion increased the likelihood of re-establishing baseline levels of performance by returning to baseline before complete and sustained suppression of noncompliance, permitting the effects of subsequent procedures to be adequately determined. In addition, conditions were never changed on the first day of the week.

RESULTS

Reliability

The mean interobserver agreement and the percentage of the total sessions during which measurement reliability was obtained are shown for each subject in Table 1. The mean reliability

Table 1
Scored Interval Reliabilities

	<i>Noncompliance</i>		<i>^b% Intervals</i>
	<i>^aMean</i>	<i>Range</i>	
Keith	0.95	0.80-1.00	24
Paula	0.88	0.57-1.00	20
Ricky	0.93	0.72-1.00	25
Scott	0.98	0.90-1.00	20

^aWhen no instances of noncompliance were recorded, the S-I formula became 0/0. These occurrences, of which there were only three, were not included in calculating the mean.

^bPercentage of session in which reliability was checked.

estimates ranged from 0.88 to 0.98, with individual session scores extending from 0.57 to 1.00. The sessions in which reliability was obtained are indicated by an asterisk (*) in Figures 1 and 2. The presence of a second observer did not appear to increase or decrease systematically the reported per cent of noncompliance.

Noncompliance Data

Table 2 gives the mean per cent of noncompliance to A- and B-task commands across the various experimental conditions. Each of the subjects demonstrated consistent responding to both sets of tasks. When noncompliance to the B-task commands decreased as a result of punishment, a lower mean per cent noncompliance was also recorded for the A-task commands. The largest discrepancy in per cent noncompliance occurred for Scott under social punishment (S.P.) when noncompliance to A-task commands was 27 percentage points higher than for B-task commands.

Figures 1 and 2 show the percentage of noncompliance for each of the four subjects across the experimental conditions. Data for the A- and B-tasks are combined because of the similarity in responding to the two sets of tasks. The number of times that social punishment, positive practice, or timeout was employed during the sessions when they were scheduled to follow noncompliance is also indicated. In addition, the data obtained from the use of the probe tasks are presented separately.

Keith's mean level of noncompliance at the end of the initial baseline was above 90% (Figure 1). The introduction of social punishment contingent on noncompliance to B-task commands immediately decreased noncompliance. Social punishment was administered only twice during the two sessions. Noncompliance gradually increased on return to baseline, meeting the stability criterion at about 80%.

Paula's noncompliant behavior met the stability criterion at approximately 98% in the first baseline period. Relatively small changes in noncompliance were recorded in the subsequent pos-

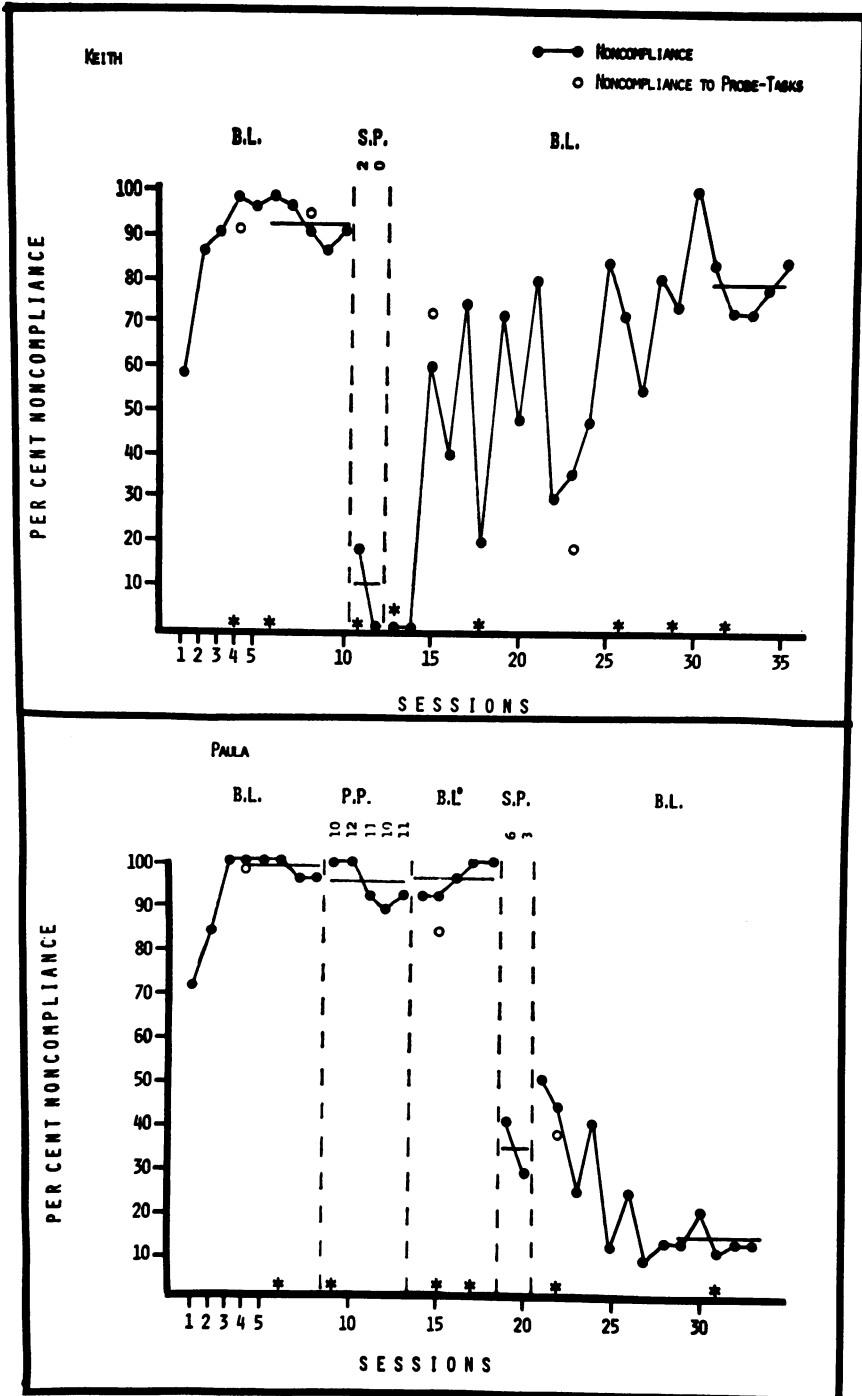


Fig. 1. The per cent of noncompliance per session is shown for Keith (upper panel) and Paula (lower panel) across the baseline (B.L.), social punishment (S.P.), and positive practice (P.P.) conditions. The horizontal lines indicate the mean per cent noncompliance for the sessions over which they extend. The numbers on the upper portion of each panel represent the number of occasions on which a particular experimental procedure was applied in that session. Asterisks mark the sessions when interobserver agreement was obtained. The open circles denote percentage of noncompliance on probe tasks.

Table 2

Mean percentage of noncompliance to A and B Task commands for each subject across the experimental condition^a

Subject	Condition	Task		Subject	Condition	Task	
		A	B			A	B
Keith	B.L.	98	92	Scott	B.L.	95	98
	S.P.	23	14		T.O.	100	100
	B.L.	85	78		B.L.	97	98
Paula	B.L.	100	98		P.P.	88	75
	P.P.	97	95		B.L.	98	100
	B.L.	98	95		S.P.	52	25
	S.P.	37	27		B.L.	8	10
	B.L.	25	2	Ricky	B.L.	100	99
					T.O.	74	56
					B.L.	100	100
					P.P.	55	48
					B.L.	97	100
					S.P.	23	10
					B.L.	100	90

^amean percentage of noncompliance for B.L. condition based on last five sessions under B.L. for T.O., P.P., and S.P. Mean percentage of noncompliance is based on total number of sessions in each condition.

itive practice and baseline conditions. Noncompliance decreased to a mean of 30% when social punishment was applied. This procedure was employed an average of 4.5 times for the two social-punishment sessions, in comparison to a mean of 10.8 positive-practice trials for each session under that condition. Her levels of noncompliance during the final baseline remained well below those recorded in previous baselines, meeting the stability criterion at 13%.

Figure 2 shows the data for Ricky and Scott, both of whom were exposed to the three experimental conditions in the same order. Ricky's level of noncompliance decreased from a baseline of nearly 100% to a mean of 64% for the two timeout sessions. Total noncompliance (100%) was recorded again in the sixth session of the second baseline period. The decrease in noncompliance noted in Session 16 occurred following Ricky's three-week vacation from school. Noncompliance decreased to below 50% under positive practice but immediately returned to 100% during the following baseline. The greatest suppression of noncompliance was associated with social punishment, even though the procedure was applied fewer times (five) as compared to positive practice and timeout,

which were invoked on 12 and 15 occasions respectively. As in the previous baselines, noncompliance returned to nearly 100% during the final baseline condition for Ricky.

Scott's (Figure 2) high levels of noncompliance at the end of the first baseline were not substantially modified during the timeout or second baseline conditions, remaining above 90% throughout. Although noncompliance decreased under positive practice, it remained near 80% and increased when the baseline condition was re-instated. Scott became much less noncompliant (mean noncompliance of 39%) under social punishment than he had in any previous condition, although fewer applications (three per session) of the procedure were required in comparison to positive practice (9.4 per session) and timeout (11.2 per session). Unlike the previous two baseline periods, Scott's per cent of noncompliance continued to decline in the final baseline condition and met the stability criterion at 6%.

Aggressive Responses

Scott also emitted aggressive behaviors, including attacks on the experimenter, at a high rate during the initial baseline (AGG. RESP.,

Figure 2). These attacks became more violent in timeout and resulted in the substitution of a male experimenter (Session 17), which reduced the frequency of attacks but not the level of non-compliance. The aggressive behaviors, however, were totally suppressed under social punishment and did not recur.

Probe Data

The data recorded from the introduction of the probe tasks are indicated separately in Figures 1 and 2. In general, it can be seen that the per cent of noncompliance recorded in response to the probe-task commands was similar to that for the other tasks. These data indicated that the effects of the experimental procedures extended to commands to play with unfamiliar as well as familiar tasks.

DISCUSSION

These data indicate that social punishment in the form of a loud scolding reprimand followed by a silent "glare" can effectively reduce non-compliance. Based on (a) the extent to which noncompliance was suppressed, (b) the number of times each procedure was administered, and (c) the rapidity and degree of response recovery when the procedures were withdrawn, social punishment also appeared to be relatively more effective than the timeout and positive-practice techniques used. Further research is needed to verify this relationship and to determine if it exists for different subject populations and responses. Also, the effects of social punishment did not appear to be attenuated when social punishment followed other procedures.

There are several plausible explanations for the inconsistent and minimal effectiveness of the timeout procedure used. First, most current data (McDonough and Forehand, 1973; White, Nielsen, and Johnson, 1972) suggest the need for timeout periods longer than 40 sec, although Barton, Guess, Garcia, and Baer (1970) reduced inappropriate mealtime behavior with a 15-sec timeout period. Second, the positively reinforc-

ing value of the command situation is questionable, in which case timeout, especially of short duration, would not be expected to modify behavior effectively. Third, inappropriate behavior may actually have been adventitiously strengthened by the noncontingent release procedure (Hobbs and Forehand, 1975). And fourth, according to teacher reports, each of the four subjects had experienced timeout duration of 5 min or longer on several occasions, an experience which tends to attenuate the effects of shorter timeout duration (White *et al.*, 1972).

Positive practice did have some effect on non-compliance, but it was not consistent across subjects. It is difficult to compare these results with those originally obtained by Foxx and Azrin (1973), and more recently by Azrin and Powers (1975); because of the brevity of the present procedure and the absence of verbal direction during positive practice. But as noted by Epstein, Doke, Sajwaj, Sorrell, and Rimmer (1974), Positive practice involves several components, any one or combination of which could be responsible for any observed effect.

Social punishment seems to have a number of practical advantages over other discipline or punishment procedures. It can, for example, be delivered immediately and at maximum intensity. If necessary, the intensity can be easily moderated. Social punishment requires no special facility, space, or apparatus, can be easily taught to others, and administered in a variety of situations. The actual time required to deliver social punishment is small, yet it appears to be immediately effective in suppressing some inappropriate behavior, whereas ignoring or extinction may initially result in a response increase (Sajwaj, Twardosz, and Burke, 1972). Furthermore, it does not appear to pose the threat of any physical damage or harm to the subject. This last point is an especially sensitive one, given the current moral, ethical (Ross, 1974; White *et al.*, 1972), and legal (Anderson and King, 1974; Wyatt *versus* Stickney case, 1974) issues relating to the use of certain punishment procedures, particularly with the mentally retarded.

Several variables relevant to an experimental analysis of the effects of social punishment require systematic examination. One of these is the intensity of the reprimand. O'Leary *et al.* (1970) and O'Leary and Becker (1968), for example, found soft reprimands to be equally or more effective than loud reprimands in reducing disruptive behavior in the classroom. It may be, however, that it is the contrast between the authority agent's usual vocal intensity and the intensity of the reprimand that is important. This notion is supported by O'Leary *et al.*'s (1970) recommendations for the use of occasional loud reprimands in combination with soft ones.

Social punishment that involves loud reprimands may be effective because the reprimands "startle" the subject (McAllister *et al.*, 1969; Risley, 1968). This appeared to be the case with the present subjects, each of whom appeared "stunned" following initial administration of social punishment. This was particularly apparent with Paula, who wet or soiled her pants during the first social-punishment session and in each of the eight subsequent sessions, and with Scott, who crouched down and covered his ears after the first reprimand. It might be expected that the "startle effect" would diminish, accompanied by increases in noncompliance. The fact that this was not observed may be a function of the low frequency of reprimands and the brevity of the social-punishment condition. The rate of "adaptation" to an aversive event and the rate of response recovery following the withdrawal of punishment are both important factors in the selection of an effective discipline procedure and require more attention than they are usually afforded, especially in terms of making a comparative analysis of various techniques.

Other factors involved in an analysis of social punishment include proximity to the subject during and after the reprimand and the presence of peers. Both of these factors may account for differences between the present data and those obtained in a classroom, where loud reprimands were ineffective or counterproductive (Madsen *et al.*, 1970; O'Leary *et al.*, 1970; Thomas *et al.*,

1968). Content of the reprimand may also exert influence, although in the present study verbal statements issued at the onset of timeout and social punishment were very similar, while the effects of the two procedures were not.

Both positive and negative side effects have been noted as a result of the application of social punishment. Hall *et al.* (1971), Moore and Bailey (1973), and Risley (1968) each reported increases in responsiveness and appropriate behavior, whereas Redd *et al.* (1975) reported a decrease in the reinforcement value of an adult after he had delivered several reprimands. In the present study, a substantial and enduring decrease in aggressive response was noted for Scott when social punishment was applied for noncompliance. Isolation enhanced aggression, while positive practice appeared to produce little change. Some "emotional" behavior (*i.e.*, soiling, wetting, and brief periods of crying) was also observed during social punishment in the present study, but this did subside, even though the suppressive effects of social punishment remain relatively stable. It should also be noted that the effects of social punishment were not task-specific but generalized to commands involving unpunished and unfamiliar tasks. In addition, other observations indicated that the decreases in noncompliance extended over the entire postcommand period and were not restricted to the 10-sec interval immediately following the command.² Although the side effects of punishment are of great concern, few studies have explored this or other issues using a multitreatment design.

Because social punishment as described herein does appear to elicit some "startle" and emotional responses, to be immediately effective, and to have the potential to function as a strong punisher, it should be used judiciously. For example, social punishment may be appropriate in the suppression of a high-rate behavior so that incompatible behavior can be reinforced.

²A detailed description of the data is available from the authors.

It could also be employed to suppress self-destructive behavior, which cannot go ignored due to harmful effects to the subject. Finally, low-rate behavior that should not go unattended, *i.e.*, running into a busy street, may also be an appropriate occasion for the use of social punishment. If the target behavior persists, it is likely that the procedure is not functioning as an effective aversive stimulus and should be discontinued. As was recommended by Baer, Rowbury, and Baer (1973) and Wahler (1969) with the use of timeout, and by O'Leary *et al.* (1970) and O'Leary and Kent (Note 1) with reprimands, positive reinforcement should be used in conjunction with social punishment as a means of strengthening appropriate incompatible behavior and thus decrease the likelihood of recovery of the deviant behavior.

On the basis of these and earlier findings (Baumeister and Forehand, 1972; Forehand *et al.*, 1975; Hall *et al.*, 1971; Jones and Miller, 1974; Moore and Bailey, 1973; Reed *et al.*, 1975; Risley, 1968; Sajwaj *et al.*, 1972), social punishment appears to warrant further consideration as a behavioral control technique. Further justification for continued research in this area comes from evidence indicating the rather extensive use of social punishment in the classroom (Hall *et al.*, 1968; Hall *et al.*, 1968; Thomas *et al.*, 1968) and by parents (Forehand, King, Peed, and Yoder, 1975; Johnson and Lobitz, 1974) in the absence of guidelines relating to its efficacy and proper use. Perhaps social punishment could best be viewed as one of several punishment or discipline procedures available to the parent, teacher, and paraprofessional. The specific procedure used may vary according to the child's history and current environmental conditions in the same way that the type of positive reinforcer used is varied.

at the meeting of the Eastern Psychological Association, Boston, Massachusetts, March, 1974.

REFERENCE NOTE

1. O'Leary, K. D. and Kent, R. M. *A behavioral consultation program for parents and teachers of children with conduct problems*. Paper presented
- Anderson, K. A. and King, H. E. Time-out reconsidered. *Instructional Psychology*, 1974, 1, 11-17.
 - Azrin, N. H. and Powers, M. A. Eliminating classroom disturbances of emotionally disturbed children by positive practice procedures. *Behavior Therapy*, 1975, 6, 525-534.
 - Azrin, N. H. and Wesolowski, M. D. Theft reversal: an overcorrection procedure for eliminating stealing by retarded persons. *Journal of Applied Behavior Analysis*, 1974, 7, 577-581.
 - Baer, A. M., Rowbury, T., and Baer, D. M. The development of instructional control over classroom activities of deviant preschool children. *Journal of Applied Behavior Analysis*, 1973, 6, 289-298.
 - Barton, E. S., Guess, D., Garcia, E., and Baer, D. M. Improvement of retardates' mealtime behaviors by timeout procedures using multiple baseline techniques. *Journal of Applied Behavior Analysis*, 1970, 3, 77-84.
 - Baumeister, A. A. and Forehand, R. L. Effects of contingent shock and verbal command on body-rocking of retardates. *Journal of Clinical Psychology*, 1972, 4, 586-590.
 - Birnbrauer, J. S., Peterson, C. R., and Solnick, J. V. Design and interpretation of studies of single subjects. *American Journal of Mental Deficiency*, 1974, 79, 191-203.
 - Bostow, D. E. and Bailey, J. B. Modification of severe disruptive and aggressive behavior using brief timeout and reinforcement procedures. *Journal of Applied Behavior Analysis*, 1969, 2, 31-37.
 - Epstein, L. H., Doke, L. A., Sajwaj, T. E., Sorrell, S., and Rimmer, B. Generality and side effects of overcorrection. *Journal of Applied Behavior Analysis*, 1974, 3, 385-390.
 - Forehand, R. L. and Baumeister, A. A. Deceleration of aberrant behavior among retarded individuals. In M. Hersen, R. M. Eisler, and P. M. Miller (Eds.), *Progress in behavior modification*. New York: Academic Press. (In press).
 - Forehand, R. L., King, H. E., Peed, S., and Yoder, P. Mother-child interactions: Comparison of a non-complaint clinic group and a non-clinic group. *Behaviour Research and Therapy*, 1975, 13, 79-84.
 - Forehand, R. L., Roberts, M. W., Doleys, D. M., Hobbs, S. A., and Resick, P. A. An examination of disciplinary procedures with children. *Journal of Experimental Child Psychology*, 1975 (in press).
 - Fox, R. M. and Azrin, M. H. Restitution: A method of eliminating aggressive-disruptive behavior of retarded and brain damaged patients.

- Behaviour Research and Therapy*, 1972, 10, 15-27.
- Hall, R. V., Axelrod, S., Foundopoulos, M., Shellman, J., Campbell, R. A., and Cranston, S. S. The effective use of punishment to modify behavior in the classroom. *Educational Technology*, 1971, 11, 24-26.
- Hall, R. V., Lund, D., and Jackson, D. Effects of teacher attention on study behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 1-12.
- Hall, R. V., Panyan, M., Rabon, D., and Broden, M. Instructing beginning teachers in reinforcement procedures which improve classroom control. *Journal of Applied Behavior Analysis*, 1968, 1, 315-322.
- Hamilton, J., Stephens, L., and Allen, P. Controlling aggressive and destructive behavior in severely retarded institutionalized residents. *American Journal of Mental Deficiency*, 1967, 71, 852-856.
- Herbert, E. W., Pinkston, E. M., Hayden, M. L., Sajwaj, T. E., Pinkston, S., Cordura, G., and Jackson, C. Adverse effects of differential parental attention. *Journal of Applied Behavior Analysis*, 1973, 6, 15-30.
- Hobbs, S. A. and Forehand, R. L. Effects of differential release from time-out on children's deviant behavior. *Journal of Behavior Therapy and Experimental Psychiatry*, 1975 (in press).
- Johnson, S. W. and Lobitz, G. K. Parental manipulation of child behavior in home observations. *Journal of Applied Behavior Analysis*, 1974, 7, 23-32.
- Jones, F. H. and Miller, W. H. The effective use of negative attention for reducing group disruption in special elementary school classrooms. *The Psychological Record*, 1974, 24, 435-448.
- Leitenberg, H. The use of single-case methodology in psychotherapy research. *Journal of Abnormal Psychology*, 1973, 83, 87-101.
- MacDonough, T. S. and Forehand, R. L. Response-contingent time-out: Important parameters in behavior modification with children. *Journal of Behavior Therapy and Experimental Psychiatry*, 1973, 4, 231-236.
- MacMillan, D. L., Forness, S. R., and Trumbull, B. M. The role of punishment in the classroom. *Exceptional Children*, 1973, 40, 85-96.
- Madsen, C. H., Becker, W. C., and Thomas, D. R. Rules, praise, and ignoring: elements of elementary classroom control. *Journal of Applied Behavior Analysis*, 1968, 1, 139-150.
- McAllister, L. W., Stachowiak, J. G., Baer, D. M., and Conderman, L. The application of operant conditioning techniques in a secondary school classroom. *Journal of Applied Behavior Analysis*, 1969, 2, 277-285.
- Moore, B. L. and Bailey, J. S. Social punishment in the modification of a preschool child's "autistic-like" behavior with a mother as therapist. *Journal of Applied Behavior Analysis*, 1973, 6, 497-507.
- O'Leary, K. D. and Becker, W. E. The effects of the intensity of a teacher's reprimands on children's behavior. *Journal of School Psychology*, 1969, 7, 8-11.
- O'Leary, K. D., Kaufman, K. F., Kass, R. F., and Drabman, R. S. The effects of loud and soft reprimands on behavior of disruptive students. *Exceptional Children*, 1970, 37, 145-155.
- Redd, W. H., Morris, E. K., and Martin, J. A. Effects of positive and negative adult-child interactions on children's social preference. *Journal of Experimental Child Psychology*, 1975, 19, 153-164.
- Repp, A. G. and Deitz, S. M. Reducing aggressive and self-injurious behavior of institutionalized retarded children through reinforcement of other behavior. *Journal of Applied Behavior Analysis*, 1974, 7, 313-325.
- Risley, T. R. The effects and side effects of punishing the autistic behaviors of a deviant child. *Journal of Applied Behavior Analysis*, 1968, 1, 21-34.
- Ross, P. Human rights and behavior modification. *Mental Retardation*, 1974, 12, 3-6.
- Sajwaj, T., Culver, P., Hall, C., and Lehr, L. Simple punishment techniques for the control of classroom disruptions. In G. Semb (Ed.), *Behavior analysis and education*. Lawrence: University of Kansas, 1973. Pp. 331-341.
- Sajwaj, T., Twardosz, S., and Burke, M. Side effects of extinction procedures in a remedial preschool. *Journal of Applied Behavior Analysis*, 1972, 5, 163-175.
- Steeves, J. M., Martin, G. L., and Pear, J. J. Self-imposed time-out by autistic children during an operant training program. *Behavior Therapy*, 1970, 1, 371-381.
- Thomas, D. R., Becker, W. C., and Armstrong, M. Production and elimination of disruptive classroom behavior by systematically varying teacher's behavior. *Journal of Applied Behavior Analysis*, 1968, 1, 35-45.
- Wahler, R. G. Oppositional children: a quest for parental control. *Journal of Applied Behavior Analysis*, 1969, 2, 159-170.
- White, G. D., Nielsen, G., and Johnson, S. M. Timeout duration and the suppression of deviant behavior in children. *Journal of Applied Behavior Analysis*, 1972, 5, 111-120.
- Wyatt vs. Stickney Court Case. In B. J. Ennis and P. P. Friedman (Eds.), *Legal rights of the mentally retarded*, Vol. 1. New York: Practicing Law Institute, 1974.

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